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PHARMACOGNOSTICAL AND CHEMICAL NOTES.

By John M. Maisch.

Read at the Pharmaceutical Meeting, January 20, 1874.

It is desirable occasionally to call attention to drugs of handsome appearance and excellent qualities, if it be for no other purpose than to let the profession know how perfect a drug may be preserved, even in commerce, so as to represent all its characteristics and show any admixture if such should be present. These considerations induce me to notice two drugs, Pomegranate bark and Chiretta, which I recently obtained from Messrs Cramer & Small, of this city.

Pomegranate Bark usually occurs in our commerce in small fragments of quills, which rarely attain the diameter of a finger. The bark in question is in single and double quills, varying in length from two and a half to seven inches and from one-half to one inch in diameter. It has apparently been collected from the lower part of the trunk and the thicker roots, and agrees in all respects with the bark as usually seen in commerce and which is evidently collected from the smaller branches of the tree and root. Those quills, which are covered with a rather thick pale brownish-grey cork, more or less covered with irregular longitudinally cleft ridges, appear to me to belong to the root, while the trunk bark appears to have a thinner cork with the fissured ridges in more regular longitudinal direction, and a color more decidedly grey, varied by patches of blackish brown. It will be remembered that Dr. C. Harz stated* a few years ago that the commercial pomegranate bark is always the bark of the overground axis,

* American Journal of Pharmacy, 1870, p 220.

but is sometimes mixed with the root bark in variable proportions. Both barks are said to be alike active as anthelmintics, but the medicinal reputation appears to be based mainly upon the effects of the bark of the trunk and branches.

Chiretta is, according to our pharmacopœia, the entire plant of *Agathotes Chirayta* Don. As seen in commerce, it consists mainly of the roots and bare stems with a few fragments of the leaves and flowers or capsules still attached, while the far greater portion of these organs have been broken off. The specimen here shown is an original bundle, 32 inches in length, five inches in width and varying from one-half to one inch in thickness, thus presenting the form of an elongated parallelopiped in appearance; its weight is about one pound. The stems are folded back on themselves, so as to show principally the paniculate infloresence, composed of numerous umbel-like cymes situated along the branches. The bundle is tied at both extremities and in the centre with split cane, and the plant has the peculiar bitter taste to an intense degree.

A False Angustura Bark, which has been sold to a small extent in this city, was shown to me a short time ago. The small piece which I first saw was quite thin, covered with a greyish cork exhibiting patches of an orange shade, while the inner surface was of a dark brown, so as to present at first sight an appearance reminding of the bark of Strychnos nux vomica, which is usually designated as false angustura bark. The bark in question, however, is of such a fibrous texture that the idea of its probable identity with the strychnos bark is at once dispelled. The specimen here shown is in slightly curved pieces, seven inches and less in length, and one-eighth of an inch and less in thickness; intermixed with some half quills and a few quills. It consists altogether of the inner bark or bast layer, the outer bark having been thrown off by the cork. The suberous layer shows numerous small warts more or less confluent laterally, so as to form elevated patches, but mainly uniting in the direction of the axis to short, very irregular, longitudinal ridges. The cork is very soft, almost mealy, of a light brownish-grey color externally, and of a decided pale orange-rust-brown within. The surface layer being easily rubbed off, the orange tinted patches are easily explained; their color, however, is never of the bright orange-red of the patches upon the strychnos bark. The inner bark consists of a dark brown parenchyma, in which coarse, light colored bast fibres are imbedded in inter-

rupted tangential rows. The inner surface of the bark is of a blackish-brown color, very coarsely striated from the rather distant bast fibres, and often with patches of a soft wood closely adhering, which in some specimens has an almost copper-green tint. The bark breaks readily with a short but very distinct fibrous fracture, while the corky layer breaks much smoother, the bast fibres enclosed by it not protruding from the fracture to the same extent as those of the inner bark. The taste is purely bitter and devoid of aromatic properties.

It will be observed that this false Angustura bark differs very materially from both the true angustura and the strychnos bark. The former one of these two barks occurs in curved pieces, with a pale almost ochre colored cork, which is very friable and marked with suberous warts or by mainly longitudinal furrows. The inner surface is of a light brown-yellow, rather granular, not striate. The bark is very fragile and shows a smooth fracture in which are numerous white shining striæ of crystals.

The latter (strychnos bark) is covered with a warty light greyish or yellowish friable cork, with frequently very large orange-red patches; fracture nearly smooth, dark brown, divided by a lighter colored line into two layers; crystalline striæ absent; inner surface even, gray-brown to blackish-brown, finely striate.

I have no means of ascertaining the origin of the false angustura bark, described above; it most likely reached Philadelphia from New York.

Trompatilla, a Remedy for Hydrophobia.—Under this name was handed to me, by a friend, a sample of a drug which had been received by him from a friend residing in Mexico, where the article is said to be successfully used for the prevention and treatment of hydrophobia, for which complaint it is freely given in the form of decoction. It is stated to be obtained from *Bouvardia triphylla* and consists of short segments of the stem and branches, varying from one-fourth to three-fourths of an inch in diameter, terete and slightly bent. The bark is thin, fragile, brown and separates in a few pieces very readily from the wood, but adheres firmly to it in the largest number. The bark is covered with a comparatively thick layer of soft friable cork, which is rust-brown within, externally grey to blackish-brown and marked with numerous shallow longitudinal fissures. The wood is rather hard, but splits easily and straight in the direction of the axis;

it shows concentric, somewhat irregular, zones, resembling annual rings, and is radially very finely striate from the numerous very fine medullary rays. The duramen has a purplish-gray tint, the alburnum is yellowish-white. There is no perceptible odor to either wood or bark; the former is tasteless, the latter has a slight bitterish taste. The central pith is scarcely a line in diameter and of a brownish to purplish-brown color.

The genus Bouvardia belongs to the natural order of Rubiaceæ, tribe Cinchonaceæ, subtribe Cinchoneæ. De Candolle * enumerates eleven species, all shrubby plants and natives of Mexico, having the leaves either verticillate or opposite. The scars on the specimens in question are three or four in a whorl, indicating that the plant belongs to the former section and is most likely *B. triphylla*, Salisbury. The following description is translated from De Candolle (loc cit.)

Bouvardia Jacquini, H. B. K., small branches triangular; leaves somewhat rough, hairy beneath, smooth above, ternate, oblong, corymbs subtrichotomous; calyx lobes one-fifth the length of the roughish corolla tube; corolla red, the tube ¾ inch long; varies with the leaves pubescent and glabrous.

The following synonyms are mentioned in the same place: Ixora Americana, Jacquin; Ixora ternifolia, Car.; Houstonia coccinea, Andrews; Bouvardia triphylla, var. *a.*, Salisbury, and Tlacoxochilt jasminiflora, Hernandez.

Picric Acid Mistaken for Santonin. A vial found in a closet in a drug store, was labelled santonin; the contents were crystalline, of a yellow color, and of an intensely bitter taste, which prevented it from being used as santonin, for the variety colored yellow by light it might have been taken on a superficial examination. It was handed to me for identification, and the investigation was performed at the College laboratory by Mr. W. L. Harrison of Petersburg, Va. The absence of santonin and of an alkaloid, especially berberina, was proven by appropriate tests, and the freedom from inorganic matter was established by incineration. The following summary gives an account of Mr. Harrison's examination.

The substance was in light yellow shining laminæ, taste very bitter and somewhat sour; it reddens litmus and melts, when slowly heated, into a brownish yellow liquid, which immediately becomes crystalline

*Prodromus, iv, p. 365.

on cooling. When slightly heated, it volatilizes unchanged; at a higher temperature it takes fire, burning with a yellow, very smoky flame and evolving irritating and very bitter fumes. It is soluble in cold water, forming a solution of brighter color than the crystals themselves; much more soluble in hot water, from which it crystallizes in thin long needles on cooling; soluble in oil of vitriol particularly when heated, and precipitated from the solution in the original state upon addition of water. With aqueous solutions of the alkalies it gives bitter deep red solutions. Its aqueous solution, treated with excess of ferrous sulphate, then with excess of caustic alkali, gives a filtrate of a deep blood red color, darker than the preceding with alkalies alone. When sulphuretted hydrogen is passed to saturation into a saturated alcoholic solution previously neutralized by ammonia, the liquid assumes an intense blood red color. These reactions and characteristics all correspond with those for picric acid.

ADDITIONAL NOTES ON PANCREATIN.

By Richard V. Mattison.

Read at the Pharmaceutical Meeting, January 20th.

Numerous inquiries regarding saccharated pancreatin, its doses, uses, &c., having been instituted since the publication of my last paper* upon the subject, induces me to present a few further remarks upon this valuable and highly interesting substance. This is a fine white powder, almost tasteless, or with the slightly sweet taste of lactin. When mixed with water it is perfectly soluble, dissolving in between five and six parts of that liquid, and forming a perfect emulsion when mixed with liquid fats and a small quantity of water.

I would respectfully suggest the following formula for the proper exhibition of cod-liver oil in combination with pancreatin:

℞.	Pancreatini Sacchar., . . .	℥j,
	Aquæ, ...	f℥iv,
	Sacchari Albi, ...	℥vij,
	Olei Morrhuæ, . . .	Oiss,
	" Gaultheriæ, . . .	gtt. xx,
	" Amygd. Amar. . .	gtt. v.

M.

*See American Journal of Pharmacy, 1873, Dec., p. 531.

Rub the saccharated pancreatin with the sugar and water, in a mortar, until a thick syrup is formed; to this add the cod-liver oil, in which the essential oils have been dissolved. This forms a perfect emulsion, without difficulty. It separates, of course, upon standing, but can easily be shaken together again, forming an emulsion with slight agitation. This is certainly to be preferred to the thick mucilaginous emulsions made with gum arabic or tragacanth, which are usually so distasteful to patients, because of their being so thick.

By the above formula a preparation can be furnished containing seventy-five (75) per cent. of oil, in the condition in which the oil, as usually prescribed, enters the duodenum, thus rendering its absorption and assimilation by the lacteals comparatively easy, the molecular formation of the oil being completely broken up. To make the emulsion whiter a little lime water may be substituted, omitting an equivalent quantity of water, a partial saponification rendering the emulsion more permanent and more elegant in appearance.

The easy assimilation of this preparation having been experimentally demonstrated by several of our eminent medical practitioners, it stands unrivalled in a therapeutical point of view as a standard pharmaceutical preparation of cod-liver oil.

The action of pancreatin upon albumen having frequently been stated, experiments were instituted in order to more closely examine this action. Accordingly, ten grains saccharated pancreatin were dissolved in one fluidounce of water, with the addition of six drops of hydrochloric acid. To this thirty grains of coagulated albumen were added, and the whole kept at a temperature of 100° F., being occasionally agitated. At the end of six hours about twenty-five grains were dissolved, thus showing the correctness of the usually received statement, and at the same time showing its great inferiority to saccharated pepsin, which under similar circumstances would have dissolved from 120 to 180 grains.

The action of pancreatin upon starch was next observed, and a drachm of Bermuda arrowroot was mixed with a solution of ten grs. of saccharated pancreatin in one fluidounce of water, and kept at the temperature of 100° F. for several hours. At the expiration of this time the mixture was filtered and the filtrate tested for glucose, abundant evidence of the presence of this substance being afforded by Trommer's and Fehling's tests. That this glucose was the product of the action of pancreatin upon starch was demonstrated by testing

the arrowroot, which gave a negative result, and by a comparative test with the solution of glucose obtained by the above action of the pancreatin upon the arrowroot. Fifty minims of this solution, containing less than one grain of lactin, reduced the cupric solution much more readily than a similar solution containing ten grains of lactin, the purity of both specimens of milk sugar having been ascertained before using.

Although the strength of saccharated pancreatin is given as "ten grains emulsify two fluid-drachms of cod-liver oil," yet when ten grs. were dissolved in one fluid-drachm of water, and one fluidounce of oil added, perfect emulsification was effected in a very few minutes.

The experiment of digesting the pancreas in cod-liver oil was tried, and with this is presented samples thereof.

The bottle labled No. 1 consists of a portion of cod-liver oil, in which a pancreas was digested with frequent agitation. As will be found upon inspection, the oil is much changed, having the appearance and smell of a badly oxidized oil. This change was very rapid from the moment of the introduction of the pancreas.

The bottle labled No. 2 consists of a portion of the same oil in which a pancreas was digested under precisely similar circumstances, with the exception of the addition of half a fluidounce of hydrochloric acid to the mixture. This sample will be found presenting the appearance of a fine oil, free from any indication of rancidity. When to this pancreatized oil a portion of water is added a perfect emulsion is formed, to which more oil may be readily added without disturbing the emulsion. It is, however, deemed inferior to the emulsion of oil prepared according to the directions given, in which such good evidence is afforded of the superiority of saccharated pancreatin.

Philadelphia, 1st month, 1874.

THE MORPHIA STRENGTH OF TINCTURE OF OPIUM.

By George W. Kennedy.

Tincture opium of our Pharmacopœia, when made of proper strength, should represent in each gallon the active ingred ents of ten troy ounces of the powdered drug; as opium varies in morphia strength, it is evident that the tincture must likewise vary; powdered opium is not used by apothecaries generally, but the opium as it is found in the market.* There is a serious objection to it as found in commerce,

* The Pharmacopœia directs the opium to be *dried and in moderately fine powder.*—Ed.

owing to the large per cent. of moisture it sometimes contains. I have found it to be adulterated with bullets and sand, which is something every apothecary is acquainted with, and there are many other things used for the same object, but these two came under my observation and are therefore noticed here. From one pound of opium I picked out two bullets weighing one and a half ounces, and about half an ounce of small gravel stones. Opium costing nine or ten dollars per pound, would make lead and gravel very expensive, especially when you expect to get opium instead of bullets and sand.

I am not altogether in favor of making the tincture from the powdered drug, as that too contains a greater or less proportion of moisture, and will certainly cause the tincture and all of the opium preparations to vary much in morphia strength. I have exposed powdered opium to a temperature of 100° F., and kept it at that temperature until it ceased loosing weight, and was surprised to find the three different packages which I examined, losing 7·50, 9·10, and 8·20 per cent. of moisture. It has been a question with me, ever since I knew anything about the drug business, whether powdered opium as found in the market was free from adulteration. If the opium as found in lump is so much adulterated, it appears to me the powdered would be also; bullets and large stones could be easily picked out before pounding, but small gravel stones, cow manure, starch, and many other things could not; but still, careful wholesale dealers could, to a great extent, place a very good article of powdered opium in the market, when others would be only too glad to have anything ground up and sold as pure powdered opium, the adulteration of the powdered drug being more difficult to detect than it would be previous to powdering. The proper way to make tincture of opium, in my opinion, would be to make by assay, each fluid-ounce represent four grains of morphia, which would require the opium to contain 10·6 per cent. of morphia; then we would have preparations reliable and uniform in strength, and physicians would not be disappointed in the effects of the medicine, which no doubt is very often the case; but still it matters not with some apothecaries, whether the opium contains ten per cent. of morphia or two, so they have something that resembles laudanum, and enough of the odor to show that there is some opium in the preparation. This puts me in mind of an incident which happened when I was an apprentice, and inexperienced in the profession. My preceptor was a man who was very eager to make

money, a complaint we are all troubled with more or less, and one which the healing art may exhaust their whole catalogue of medicines and not succeed in curing; he made laudanum in this way: boil three ounces of lump opium in three quarts of water, with some powdered extract of liquorice, add one quart of alcohol, let stand a few days and filter; this he would call laudanum. The dregs were saved in accordance with his directions, and after collecting together the dregs of a few gallons of the tincture, he would order us boys to make another gallon of laudanum, so called, out of that. He frequently told his young clerks that there was a large per cent. of narcotina left in the dregs and it would not do to waste it by throwing them away, as its medicinal properties were similar to morphia and nearly equal in strength. I merely make this statement here to show what was sold in some shops as laudanum. I hope we have no apothecaries selling such laudanum in these days.

In order to satisfy my curiosity to know what was sold in some of the shops, I purchased two ounces from ten different stores; below will be found the result of my examination, showing the yield of morphia and narcotina in each fluid-ounce. The method adopted of assaying was that of Staples' process, which is the best adapted for the tincture.

The tincture was first evaporated in a capsule, by means of a water bath, to one-half, to get rid of the alcohol; it was then allowed to stand so as to get rid of a blackish resinous substance which is soluble in alcohol and insoluble in water; the aqueous solution was then poured off, and the black deposit was washed with water and filtered, along with the first solution, into a wide mouth bottle, an equal bulk of alcohol was added to the clear liquor in the vial, and then water of ammonia mixed with alcohol. The mixture was next agitated, the bottle corked tightly and set aside for three days. By this time the morphia will be found crystallized in the vial; the crystals were then detached from the bottle, the liquor agitated and poured upon a tared filter. There is always a small quantity of morphia left in the vial and that can be readily washed out with a small quantity of diluted alcohol, which served also to wash the morphia and filter; the morphia was then dried by a low heat, and weighed upon the filter. In order to prove whether the first weighing was correct or not, the crystals being easily removed from the filter, were weighed the second time, and no difference between the two weighings was observed. To

ascertain the quantity of narcotina present, the morphia was treated first with chloroform, and then with ether; after drying, the loss in weight would show the quantity present. In the table below will be found how much laudanum varied in morphia strength, as dispensed from different shops; I might say here that three of the purchases were made from houses that are known to sell cheap, and the others from reputable sources. Our dispensatory says that opium shall not contain less than seven per cent. of morphia, which would require the tincture to contain at least 2·62 grains to the fluid ounce.*

	Quantity of Morphia in one fluid ounce.	Quantity of Narcotina in one fluid ounce.
1	3.20	0.30
2	3.25	0.85
3	2.90	0.75
4	1.60	0.35
5	2.80	0.65
6	2.65	0.20
7	1.50	0.25
8	1.65	0.33
9	3.30	0.80
10	2.65	0.60

Pottsville, Pa., Jan. 14, 1874.

SYRUP OF WILD CHERRY BARK.

The following two communications on the above subject have been received by the editor:

I have used for some time the following formula for syrup of wild cherry, and think it preferable to any other:

Take of Wild Cherry Bark, in moderately fine powder,	℥x,
Bower's Glycerin,	f℥viii,
Granulated Sugar,	℔iiiss,
Water (Distilled),	q. s.

* The Pharmacopœia of 1860 required commercial opium to contain at least 7 per cent. of morphia. Allowing the opium to contain 20 per cent. of moisture, tincture of opium of the old Pharmacopœia should have contained not less than 3·28 grains of morphia in the fluid ounce. The requirements of the new Pharmacopœia for *dry* opium are 10 per cent. of morphia when worked by the officinal process, or 3·75 grains of morphia for one fluid ounce of the tincture. Morphia is not entirely insoluble in diluted alcohol and in ether containing alcohol; chloroform dissolves morphia in very appreciable quantity.—Ed.

Mix the glycerin with one pint of water; moisten the bark thoroughly, and let it stand in a close glass vessel for 24 hours; transfer to a glass percolator, pour on the remainder of the menstruum, and then water until two pints of percolate are obtained. Add the sugar to the percolate, agitating occasionally until dissolved. Three pounds of sugar in winter are sufficient.

This syrup keeps well, and gives more of the characteristic odor and taste of syrup of wild cherry than when made according to U. S. P.

Wm. H. Walling.

Philadelphia, Jan. 13, 1874.

Having formerly experienced considerable difficulty in obtaining a good syrup of wild cherry, I have been using the following formula for a year or more, and find it very satisfactory:

℞.	Ext. Pruni Virginianæ, . . .	f℥v,
	Sacchari Albi, ...	℔ii avd.
	Aquæ, ...	℥xi.

Make a concentrated syrup with the sugar and water, and when cool add the fluid extract and sufficient water to bring the measure to two pints.

M. H. E.

Philadelphia, Jan. 19, 1874.

Note by the Editor.—Regarding the last formula, we have to remark that neither the fluid extract of wild cherry of the former nor of the present Pharmacopœia agrees in composition with the syrup. The fluid extract of 1860 bears a closer resemblance to it than that of 1870; it is, however, of but about one-half the strength of the latter.

VASELINE.

By Adolph W. Miller, M. D., Ph. D.

Read at the Pharmaceutical Meeting, January 20, 1874.

Although this* is declared to be a full, clear and exact description, which will enable those skilled in the art to make vaseline, it nevertheless savors strongly of mystification, on account of its ambiguous terms and indefinite language.

In the first place, the residuum of petroleum is directed to be again subjected to distillation, either in the usual manner or in a vacuum

* See Minutes of the Pharmaceutical Meeting this number.

apparatus. It is not stated, however, what proportion is to be distilled off, at what temperature the distillation is to be interrupted, or what is to be the gravity of the distillate. On the contrary, the specification directs the application of sufficient heat to the residuum "to vaporize all the oil down to the residuum," the same term being employed to express two different substances.

The second step of the process is the filtration of the residue left in the still through prepared bone-black, for the purpose of decolorizing the product. This object seems to be but imperfectly accomplished, notwithstanding the patent steam filter and the patented method of preparing bone-black, as the color is stated to vary from a pure white to a deep claret.

The patentee lays great stress on the vacuum process, and he is no doubt correct in so doing. When making use of this, I would suggest that the most favorable point for interrupting the distillation will be just as soon as the distillate is free from odor, and nearly so from taste.

The consistency of vaseline is evidently of very little moment, as, by the patentee's own admission, it may vary from 20° to 34° Beaumé; the melting point is given as ranging from 85° to 110° Fahrenheit. These variations being quite considerable, it would seem that the word vaseline is intended by the patentee as a generic term for all heavy petroleum products purified in the above manner, rather than as a specific designation for a body of definite composition.

Vaseline is claimed *not* to contain paraffin. This appears to be so self-evident a prevarication that it would scarcely merit a refutation. No one disputes the presence of paraffin in the coal oil residuum; there is no provision in the patentee's specification for its removal or decomposition; hence, what becomes of it?

PHARMACY IN SOUTHERN ILLINOIS.

By A. G. F. Streit, Ph. D.

Abstract from the Annual Report of the Secretary of the St. Clair Pharmaceutical Association of Southern Illinois.

I. *Foundation of the Association.*—We all know well enough that the science and art of pharmacy, from its earliest establishment on this continent up to the present time, is not and has never been what it should be and what it is considered to be in the older European

States. It is consequently sunk to the level of the other commercial trades in this country. The causes of this sad and deplorable degradation of our noble profession in America are numerous, among which I will only mention the principal ones:

1st. The neglect of the pharmacist to respect his profession (lack of scientific self-respect), not only as a commercial but also especially as a scientific one; caused by the great deficiency in scientific education of many apothecaries.

2d. The erroneous ideas of our American people concerning ethics of trade and pecuniary compensation, especially as relating to the pharmaceutical profession.

3d. The most injurious, oppressive and overwhelming influence of the patent medicine system, which in no country of the civilized world has attained such dimensions as in the United States.

Want of intelligence and of scientific (pharmaceutical) education renders a large class of pharmacists unable to comprehend the great importance of pharmacy and its mission and standing among the other sciences, as well as the venerability which it should enjoy in the eyes of the public: they consider it to be a mere commercial business and totally disregard its scientific mission. This and the ruinous influence of the patent medicine trade are the principal inimical causes and powers which endanger the commercial and scientific elevation of pharmacy, and which therefore have diminished and endangered the scientific and commercial worth of our noble profession.

Hard will be the struggle against these powers—ignorance and quackery of every description—but nevertheless it is a holy struggle, to be accepted in the interest and for the welfare of pharmacy, and which undoubtedly must be taken up, at least by all well-minded members of the profession.

The existence of these dangerous evils, further the evidence that the influence of the same was growing stronger from year to year, endangering the life and the vitality of our profession, were sufficient to open the eyes of the thoughtful and honest pharmacists in our section of the country, and to exhibit the dangers arising from the permanence of the *status quo;* and in the year 1871 the earnest desire was expressed by many apothecaries of Belleville and the surrounding country to organize a pharmaceutical association for the southern portion of the State of Illinois.

But this desire remained only a project, and nothing could be accom-

plished in said year. Such was the condition of pharmacy up to the year 1873, when early in February the aspects for a union of pharmacists were getting more favorable.

After several preliminary conversations, a committee on organization was formed, an agreement of organization drawn up and at once signed by all the apothecaries of Belleville then members of said committee.

A circular was then issued by this committee, and sent to all the colleagues in the surrounding country, making them acquainted with the purpose of the proposed association, and calling them together to participate in its organization. The purposes and the necessity of such a society were not duly and earnestly enough considered and understood by the larger portion of the colleagues to whom these circulars were sent.

Of about 50 circulars sent off only a few were answered in the affirmative, and even of those few who answered them, two withdrew after the organization was accomplished and the necessary pecuniary assistance called for.

Nevertheless this may be considered a most fortunate occurrence, which need not be deplored. It is the best proof of their incapacity, lack of manliness, and of indifference towards the welfare of the profession, its elevation and future progress. Such elements, indeed, can never benefit an association; they generally prove to be of an unsteady and quarrelsome nature, endangering the peace, prosperity and future existence of a body.

After the completion of the necessary preliminary labor, the meeting of organization was held April 23d, and the name of the St. Clair Pharmaceutical Association of Southern Illinois was adopted in honor of the county in which it originated.

After the adoption of the constitution and by-laws, the following officers were elected: President, N. T. Baker; Vice-President, Wm. Feickert; Secretary, A. G. F. Streit; Treasurer, A. Rudolph.

Associations are often formed with a view to pecuniary gain or for social purpose, and therefore the membership of such organizations increases faster than of scientific bodies. This idea of receiving direct pecuniary benefit is likewise prevalent among many apothecaries, and therefore they refrain from joining scientific bodies. Another reason is the great deficiency of their pharmaceutical, scientific, sometimes even general, education, not enabling them to converse intelligently with other colleagues on scientific subjects.

II. *Operations of the Association during the First Fiscal Year.*—The Association was chartered May 20th, 1873, and the charter transmitted to the Secretary by the Hon. George H. Harlow, Secretary of State, soon afterwards. A proper seal was procured. A second circular was then issued by the Association, and sent to all the apothecaries of the southern portion of the State, declaring as northern boundary, inclusive, the counties Pike, Scott, Morgan, Sangamon, Macon, Piatt, Champaign and Vermillion, and explaining therein the necessity of a union of pharmacists, making them also acquainted with the objects of the Association, and inviting them to join it in membership. Over 500 copies of this circular were sent off, but only few answered, a most deplorable proof of the want of interest for the welfare of the profession, and also of the insufficient pharmaceutical and general education of a large class of apothecaries in this section of the country.

Since July the Secretary entered into correspondence with various pharmaceutical societies of the United States, England, France, Germany and Switzerland.

The diploma of membership was then executed and distributed to the members.

Scientific deliberations could not be held, all meetings being occupied with business transactions such as generally arise immediately after the organization of a body. It is hoped that next year much more will be accomplished in the scientific department.

The meetings, excepting that of organization, were held at the Secretary's office. Should the Association increase sufficiently in membership, it is contemplated to engage another locality.

III. *Future Aim and Operations of the Association.*—The future aim of the Association is considered to be the foundation of a college of pharmacy, to be located in the city of Belleville. Although the Association is not prepared at present to carry out this project, it will nevertheless not harm to consider it as a future probability, when time and circumstances will be more favorable to the execution thereof. The founders of the Association have well and earnestly considered all these matters at the organization of the body; they did not shut their eyes to the great difficulties connected with the establishment of a college; but, notwithstanding, they did not hesitate to introduce this future object in the statutes, in order to call the atten-

tion of the public at large and the profession in special to this final aim.

It is most certain that the erection of a college of pharmacy in this section of the country is only a question of time, and when the proper time will have arrived the Association will be prepared and able to protect and assist the undertaking.

For the execution of all these designs the strongest and strictest union of all the apothecaries of Southern Illinois is undoubtedly necessary. Scientific and commercial jealousy amongst the members of our profession should never exist, as this may be considered the root of all the evils mentioned before, and which have endangered the scientific, commercial and social standing of the profession, and have led to its degradation in the eyes of the public. For the reason that we have not been united, the public has seen our weak points, has trampled and imposed upon us by disrespecting our profession, and in not acknowledging the important and difficult duties laid upon it. Let us, therefore, change these things, while they lie within the reach of our power, and before it may be too late; let us not shut the eyes to the great dangers arising from a permanence of such evils. Let us labor earnestly and honestly, like men. Let us look at the condition of the profession in the European States, its high and honorable standing in the community, and, although we cannot have everything here as it is there (viewing the political and social differences of those States), let us at least adopt here what is adaptable to American ideas and views.

GLEANINGS FROM THE EUROPEAN JOURNALS.

By the Editor.

Sugar in Leaves.—M. A. Petit has, on a former occasion, stated that the leaves of the grape vine contain from 20 to 30 grams of glucose, and 13 to 16 grams of tartaric acid per kilogram. The author now states that the greatest portion of the acid is in the state of cream of tartar, about one-third only being uncombined, and that the sugar consists of cane and invert sugar. On treating the liquid repeatedly with animal charcoal, it is readily obtained colorless and free from tannin; for one kilogram of leaves the author obtained then 9·20 grm. cane sugar and 26·55 grm. glucose; by another experiment 15·80 grm. cane sugar and 17·49 grm. glucose.

The leaves of the cherry and peach likewise contain a mixture of the two sugars; from one kilogram of the latter 33 grams of cane sugar and 12 grams of glucose were obtained.—*Journ. de Pharm. et de Chim.*, 1874, *Jan.*, 41.

Caryophyllic acid, $C_{20}H_{32}O_6$ (O = 16).—This new acid is obtained by gradually adding caryophyllin to fuming nitric acid, kept cool by immersing the vessel in water until crystals begin to separate. After cooling, the crystals are drained, and then purified by dissolving them in ammonia and precipitating by hydrochloric acid, and subsequently by repeated solution in alcohol and precipitation by water. It crystallizes in white needles, is readily soluble in alcohol, ether and acetic acid, but nearly insoluble in water. Its solutions in alkalies are of a yellow color and foam like soap water. It is at first tasteless, afterwards bitter. The amorphous sodium salt has the composition $C_{20}H_{30}Na_2O_6$.—*Archiv d. Pharm.*, 1873, *Nov.*, 392—397.

Analysis of Extract of Meat.—Professor Reichardt has recently again analyzed the extract of meat prepared by Buschenthal & Co., of Montevideo, on which he reported in 1870.* For comparison we give his results in the following table, No. 1 being his analysis of 1870, No. 2 of 1873, and No. 3 his analysis of the Fray-Bentos extract:

	I.	II.	III.
Soluble in 80 p. c. alcohol, .	80·76—81·24 p.c.	80·15 p.c.	81·5 p. c.
Amount of water (loss at 110°C).	16 —17 "	15·92 "	16 "
Fat and albumen, . .	None.	None.	None.
Soluble in ether, . . .	0·20 "	0·19 "	?
Nitrogen, ...	9·56— 9·99 "	9·47 "	9·51 "
Ashes, ...	21·36 "	21·3—21·37 p. c.	—
The ashes contained	Phosphoric acid.	Potassa.	Soda.
in 1870	6·1	9·0	2·3
in 1873	5·92	8·87	2·46
"	6·09	8·89	2·10

This extract, therefore, retains its character for purity.—*Ibid.*, 399—402.

Adulteration of Lycopodium.—M. Paul Cazeneuve states (*Répertoire de Pharmacie*, N. S., i, 630) that he has been supplied with a

* See American Journal of Pharmacy, 1870, p. 320.

quantity of pine pollen in the place of lycopodium. Having had his suspicions aroused by the yellower color, and smaller degree of mobility and fineness, he examined it under the microscope, and recognized in it the characters given as those of pollen of conifers, and especially of pine pollen, this latter being always constituted by two lateral cells near to a central cell, which is ruptured by the pollenic contents for fecundation. How this pollen is collected is matter for conjecture, but it may be obtained at a lower price than lycopodium, and M. Cazeneuve thinks it to be a substance worthy of further investigation. He has found that in the rolling of pills and plasters and the healing of chaps, etc., it presents the same advantages as lycopodium. It is nearly neutral; the tegumentary membrane has the cellulose nature of other pollens; it contains a little resinous matter, and the pine odor is faintly perceptible in a large quantity. The proportion of mineral matter is very small. One gram of pollen, dried in a water-bath, gave, when incinerated, 45 milligrams of white ash, composed of phosphates of potash and lime, and traces of sulphates and chlorides.—*Pharm. Journ. and Trans., Dec.* 20, 1873.

Action of Lead upon Water.—M. Dumas describes a former experiment in which five bottles containing leaden shot were partially filled with the following waters respectively: Distilled water, rain water, Seine water, Ourcq water and well water. It was found that the one containing distilled water showed in a very short time traces of lead in solution, whilst the waters charged more or less with calcareous salts contained none. The rapidity with which pure water acts upon lead is surprising, and the effect produced by traces of lime in preventing this reaction is not less so. It is impossible not to be reminded of Schlœsing's observations upon clay, which, in pure water, remains indefinitely suspended, but which is precipitated by the slightest trace of lime salts. The author thinks that pure water is an agent not yet perfectly known, and that its properties differ from those of common water more than is suspected. In the conversation which followed, M. Elie de Beaumont remarked that Schlœsing's observations explained fully the clear and sparkling character of calcareous waters.—*Chem. News, Dec.* 19, 1873, from *Comp. rend. Heb. des Séances de l'Acad. des Sci., Nov.* 10, 1873.

ON THE DETECTION OF AMMONIA.*

By G. C. Wittstein.

Scientific journals have recently often mentioned Nessler's reagent for ammonia, which consists in a strongly alkaline solution of mercuric iodide in aqueous iodide of potassium. It is asserted to surpass in delicacy all other tests for this volatile alkali; my experience, however, does not coincide with these statements.

The well-known behavior of a solution of corrosive sublimate to ammonia was first recommended by Einbrodt† for the qualitative detection of ammonia, who likewise determined the necessary cautels. It had been supposed, up to that time, that the white precipitate, which is thus formed, was soluble in 600 parts of water, and not expecting a sufficient delicacy of the new test, I made some experiments,‡ which, however, proved that one-half of a millionth of free ammonia could thereby be detected, and that, consequently, white precipitate is totally insoluble in water. I then concluded my report with the following remarks: "There may be cases in which this delicate reagent for free ammonia will be unsuccessful. If, for instance, the liquid contains an iodide, the solution of corrosive sublimate will produce a yellowish precipitate, which disappears on agitation, without producing the reaction of ammonia, even though this compound may be perceptible to the smell. Continuing the addition of the corrosive sublimate, a permanent red precipitate of iodide of mercury occurs; the chloride of mercury, therefore, is decomposed by the iodide before it is acted upon by the ammonia, and the latter may, for this reason, be still recognized by its odor or by a glass rod moistened with acetic acid."

This observation may, I believe, now be more precisely explained as follows: the double iodide of potassium and mercury which is at first formed, is subsequently decomposed by the free ammonia, and iodide of mercury is separated as a red or yellowish red precipitate, from a concentrated solution, or in a very finely divided condition, so that only a more or less intense coloration takes place.

From the above observation and its explanation, it seems evident that Nessler's is by far less delicate than Einbrodt's test, and this

* Translated from Archiv d. Pharm., 1873, Nov., 397—399.

† Journal f. praktische Chemie, 1852, lvii, 180.

‡ Wittstein's Vierteljahresschrift, 1853, ii, 111.

conclusion is confirmed by the following experiment: Take two beaker glasses, each containing 100 c. c. of water, add to No. 1 successively one drop each of solutions of chloride of ammonium, caustic potassa, and corrosive sublimate, and to No. 2 one drop of solution of chloride of ammonium and five drops of Nessler's test. A white opalescence will be plainly observed in No. 1 as soon as the solution of corrosive sublimate has become well mixed with the liquid, while No. 2 will show neither turbidity nor coloration, even though the addition of Nessler's reagent be continued. The latter seems therefore to be superfluous as a test for ammonia.

PREPARATION OF KOUMYS.

H. & N. Schultze, of Berlin, give the following formula: Unskimmed cows' milk is mixed with a sufficient amount of sugar of milk to produce in the course of the subsequent fermentation in closed vessels a carbonic acid gas pressure of four atmospheres. Fermentation is induced by the addition of brewers' yeast, which has been thoroughly washed. The operation is commenced in open tanks, in which the mixture must be frequently stirred. One-half of the casein, which is separated, is to be skimmed off. While the fermentation is actively progressing, the preparation is drawn off into champagne-bottles, the corks of which must be securely tied down by string or wire. They must then be removed to a cool locality, so that the fermentation can be properly completed. Three varieties of koumys are prepared, which differ in the amount of carbonic acid gas with which they are impregnated; they result from varying the proportion of sugar of milk, which is originally added.

C. Schwalbe makes koumys, from condensed milk, in the following manner: 100 c.c. are dissolved in a small amount of cold water; 1 gram of lactic acid and ½ gram of rum are added, and the mixture is diluted with sufficient water to make it measure 1000 to 2500 c.c. This preparation is put into a Liebig's bottle and charged with carbonic acid gas. The bottle is to be kept in a warm room, and to be examined after three or four days. When there is an active evolution of froth, and when the curd is of a fine, granular consistence, the koumys is in the proper condition. It can then be kept for about eight days.—*Phila. Med. Times, Jan.* 3, 1874, from *Deutsche Industriezeitung*, p. 438, *Chemisches Centralblatt*, p. 568.

Adolph W. Miller, M. D., Ph. D.

AN EXAMINATION OF SOME SAMPLES OF HYDROCYANIC ACID.*

By A. Towerzey.

Some little time since, at the suggestion of Mr. Schacht, I submitted to a careful examination the hydrocyanic acid we were then using in his dispensary. As we half suspected, it proved to be distinctly below the standard strength.

The necessity of being very accurate, compelled me to make repeated experiments; and anxious for a variety of samples I applied to several chemists in the neighborhood, who very kindly acceded to my requests, and gave me the opportunity of more extended experience.

The results I am thus able to show will perhaps be interesting to the association, although I am well aware that this subject has frequently been treated by more competent observers. I may especially call to your recollection a communication by Dr. Tilden, published in the *Pharmaceutical Journal* of July 29th, 1871; also a paper read by Mr. Abraham before the Liverpool Chemists' Association on the 8th of May, 1873; and likewise Mr. Siebold's report on the "Purity of Commercial Specimens of Officinal Acids," which will be found amongst the transactions of the last meeting of the Pharmaceutical Conference; and I trust these gentlemen will forgive my saying that my results tend to corroborate theirs.

It is not necessary to say one word here concerning the preparation of hydrocyanic acid; indeed, the exact process does not seem to be of much importance, provided the solution contains 2 per cent. of real acid.

The Pharmacopœia gives two tests for estimating its strength. The cyanogen may either be precipitated and weighed as dry cyanide of silver or tested volumetrically with a standard solution of nitrate of silver. This latter was the method we preferred to adopt, and, in practice, found it convenient to employ a nitrate of silver solution of such strength that 40 c.c. would show 1 per cent. in 4 grammes of sample. (I say *we*, because throughout these experiments I was kindly assisted by Mr. Schacht.)

Briefly then, we dissolved 3·15 grams of dried nitrate of silver

* Read at a meeting of the Bristol Pharmaceutical Association, December 12, 1873.

in one litre of distilled water; 4 grams of each sample were carefully weighed in a balance capable of turning to one-tenth of a milligram, with all the expedition possible (a most important matter), and mixed with rather more than sufficient solution of caustic potash to convert all the HCN into KCN; our silver solution, contained in a burette, was then run in until the last drop produced a permanent faint opalescence in the liquid after stirring. The number of c.c. of silver solution required to produce this effect divided by 40 gave at once the percentage.

Our experiments, conducted I may say, with every precaution to avoid error, and repeated more than once, indeed, several times in every case, upon twelve samples of hydrocyanic acid, gave the following average results:—

So-called B. P. Acid.

No. 1	1·92.
" 2	1·52.
" 3	1·36.
" 4	1·32.
" 5	1·262.
" 6	1·22.
" 7	1·165.
" 8	1·16.
" 9	0·26.

Acid of "Scheele's" strength.

" 10	3·62.
" 11	4·02.
" 12	1·3.

The history, as far as we know, of these samples will serve to show how unfortunately unstable is this important remedy, and to indicate the necessity for special care in its management.

No. 1 was obtained from a wholesale house of deservedly good reputation, and examined *directly it arrived.*

Nos. 4 and 6 were samples of the same acid examined in the one case when the bottle was first opened, and in the other when the contents had suffered from the frequent removal of the stopper incidental to the dispensary.

Nos. 3 and 5 were kindly sent me by a friend, who appended the following remarks:—No. 3 "from a 40 oz. bottle, from which over 35 ozs. have been from time to time removed." No. 5. "First re-

moval from a 40 oz. bottle, which has been in stock several months, during which time, however, the stopper had not been withdrawn." "Both samples have been carefully preserved in bottles encased in blue paper, and kept in a cupboard in a cool underground cellar."

Nos. 2, 7, 8, and 9 were portions of the contents of dispensing bottles kindly given me by friends who share with us the desire for a more perfect preparation.

Of the three samples of "Scheele's acid,"

No. 10 had been in stock for several months, during which time the stopper had been frequently removed.

No. 11 was a fresh sample, obtained expressly for examination, and

No. 12 was an acid of unknown birth. Its owner regarded it as a curiosity, and, like most curiosities, it is only fit to be kept on a shelf.

Here, then, gentlemen, are nine samples of hydrocyanic acid, B.P., taken from various sources, and representing very fairly, I should say, the condition in which this medicine is generally met with.

It will be seen at a glance that no two samples are alike, and all, with one exception, considerably below the standard. That such should be the case must be regarded as a matter of grave importance; and the question so frequently asked before I ask once again—Can this variation in so important a remedy be obviated? There is no doubt it arises chiefly from the extreme volatility of the substance itself. This was brought home to us most convincingly during the conduct of our experiments. HCy is much more volatile than water, hence the slightest exposure does something to weaken the sample. I feel bound therefore to answer that I fear nothing can entirely prevent this unfortunate variation in commercial hydrocyanic acid. But I think at the same time that more may be done than is always done to limit this variation, and I hazard the opinion that a difference so great as that here shown ought not to exist in any neighborhood.

In the management of this chemical it is of the utmost importance that every chemist should test for himself the strength of his solution; without so doing he can know absolutely nothing of the real strength of the article sent him. But starting with an acid of full strength and keeping it under the most favorable circumstances, he may then have fair reason to expect success in his endeavors to render this powerful agent something like a reliable remedy in the hands of the medical man.

The method we have recently adopted is to purchase acid of Scheele's strength and reduce it to 2 per cent. Mixing some ten or twelve ounces at a time we keep this quantity in well-fitting stopped bottles (1 oz. capacity) protected from the light and in a cool place. One ounce only is brought into the dispensary at a time, and *is renewed every fortnight* provided it lasts so long. This insures a frequent supply of fresh stock. Whether this plan will answer all our expectations I am not yet able to say; still, after all, this is but an endeavor to make the best of a bad job. The object to be sought for is, I venture to think, some other cyanide that may be proved to be equal to the cyanide of hydrogen in medicinal value and superior to it in chemical constancy. The most promising substance we have yet examined is the double cyanide of zinc and potassium. It is a perfectly definite crystalline body, having the composition, $K_2Zn''Cy_4$. The crystals contain no water, and are so stable that they may be even fused without change. In its solution, moreover, the cyanogen appears to be very securely fixed, as the following experiment may serve to show. A sample containing (by calculation) 2 per cent. of cyanogen, was tested and found to yield exactly 2 per cent. A pint of air was then driven through the solution in small bubbles, and being again tested, it was found to be of precisely the same strength. A sample of B. P. acid was then treated, with this result—that whereas in the first case it was shown to be of exactly 2 per cent., after the transmission of the pint of air its per centage was reduced to 1·7. But although the cyanogen in this double cyanide is non-volatile, and to that extent more constant than in hydrocyanic acid, yet it is easily evolved by even the weakest acids, such, for instance, as may be presumed to exist in the stomach. In point of fact, hydrocyanic acid itself would be produced directly the remedy was swallowed. The crystals are prepared very easily by dissolving cyanide of zinc in aqueous solution of cyanide of potassium, in the proportion of one equivalent of the former to two of the latter; upon evaporation this yields beautiful octahedral crystals.

A solution corresponding with the strength of the B. P. acid is made with 2 grams of the salt, and 42·82 grams of water.

As to the medicinal value of this solution, I am, of course, not able to speak, but I scarcely think it could in any great degree differ from that of hydrocyanic acid.—*Pharm Journ.* (*London*) *Dec.* 27, 1873.

AMMONIO-CITRATE OF IRON.

By Charles Umney.

The variation in appearance of ammonio-citrate of iron, as met with in trade, must have been noticed by every observant pharmacist.

Since the time of its introduction into medicine by Béral, now about thirty years since, most manufacturers have adopted, notwithstanding the various officinal formulæ that have been published, one or other of the following nethods for its production :—

(*a*). By dissolving metallic iron (nails) in a solution of citric acid by the aid of heat to the complete saturation of the acid.

(*b*). By adding hydrated ferric oxide to citric acid dissolved in about twice its weight of water, assisting its solution by the heat of a water-bath until the oxide is no longer dissolved, and is visibly in excess.

Solution of ammonia in both cases being added after filtration, to produce the double salt. By either method the result is very similar, the amount of anhydrous ferric oxide resulting from a calcination of the salt with free exposure to air from 30 to 31 per cent., and the appearance of the scaled product nearly or quite identical.

A review of the various formulæ that have been published in the London and British Pharmacopœias will serve not only to show the relative amounts of ferric oxide directed to be added to the citric acid, but also to indicate (when the examination of commercial specimens is brought forward) that obsolete processes are followed by manufacturers.

As this iron salt is almost universally used, it will be interesting at the same time to note the formulæ of the French Codex and the United States and German Pharmacopœias.

London Pharmacopœia, 1851. (*First Officinal.*)

Sulphate of Iron,	12 oz. Troy.
Carbonate of Soda,	12½ oz.
Citric Acid,	6 oz.
Solution Ammonia, (·960)	9 fl. oz.

British Pharmacopœia, 1864.

Solution of Persulphate of Iron (1·441)	8 fl. oz.
Citric Acid,	5 oz. (Avoir.)
Sol. Ammonia, (.960)	14 fl. oz.

British Pharmacopœia, 1867.

Solution of Persulphate of Iron (1·441) .	8 fl. oz.
Citric Acid, ...	4 oz. (Avoir.)
Sol. Ammonia, (·959) . . .	19½ fl. oz.

United States Pharmacopœia, 1873.

Citric Acid, . . .	5 oz. 360 grains (Troy).
Sol. Persulphate of Iron (1·320) .	16 fl. oz.
Sol. Ammonia, . (·960) .	20 fl. oz.

French Codex, 1866.

Acid Citric, ...	100 parts.
Hydrated Peroxide of Iron, . . .	q. s.
Sol. Ammonia, ...	18 parts.

Add such a quantity of hydrated ferric oxide as will correspond to 53 parts of anhydrous oxide iron.

Pharmacopœia Germanica, 1872.

Citric Acid, ...	8 parts.
Oxide of Iron, ...	q. s.
Then add Citric Acid, . . .	1 part.
Sol. Ammon.	q. s. to saturation.

The following table, deduced from these formulæ, will show at a glance the relative amounts of anhydrous ferric oxide to the same amount of citric acid :—

	Citric Acid.	Ferric Oxide	
Lond. Pharm., 1851	100 parts.	57·3	Added as ferrous salt.
Brit. Pharm., 1864	"	33·4	Added as ferric salt.
" 1871	"	41·8	"
U. S. Pharm., 1873	"	40·0	"
French Codex	"	53·0	"
Pharm. Ger., 1872	"	?	"

The London and British Pharmacopœias describe the amount of ferric oxide resulting from incineration with free exposure to air, but the Codex and German and American Pharmacopœias do not state the amount of ferric oxide perfect specimens of their respective salts should contain.

Pharm. Lond.,	1851	34 per cent.	Fe_2O_3.
Brit. Pharm.,	1864	26·5	"
" "	1867	27·0	"
U. S. "	1873	?	"
French Codex,		?	"
Pharm. Germ.,	1872	?	"

Most of the recent formulæ have one feature in common, viz., the complete saturation of the acid by the oxide of iron, but the quantities ordered by each work with this object in view are very disproportionate.

The British Pharmacopœia, 1867, says, "*dissolve the citric acid in eight ounces of distilled water, and having applied the heat of a water-bath, add the oxide of iron, and stir them together until the whole, or nearly the whole, of the oxide has dissolved.*"

It is presumed that complete saturation is intended by the expression "*until nearly the whole of the oxide has been dissolved,*" and that the amount of oxide produced by the precipitation of the persulphate of iron ordered is in slight excess of the quantity required for such saturation.

Be this as it may, upon referring to the Codex we find an amount of hydrated oxide ordered which shall be equal to 53 parts of anhydrous oxide, whereas the British Pharmacopœia, 1867, orders an equivalent of 42 parts only.

Practically I have found that the French Codex formula is much more like the basis of ammonio-citrate of iron of the best makers than is the British Pharm. formula, although fifty parts (half its weight) would more accurately represent the amount of ferric oxide (added as hydrated oxide) required to saturate 100 parts of citric acid than would *fifty-three* parts, as named by the Codex.

A comparison of the formulæ of the British Pharmacopœias of 1864 and 1867, as to the amount of ferric oxide added to the acid, and the amount stated to be left by calcination is most conflicting; for instance, the 1864 Pharmacopœia shows that for 33·4 parts ferric oxide to 100 citric acid, as much as 26·5 per cent. is left upon calcination, whereas that of 1867 indicates that from 41·8 parts added to the same amount of citric acid, 27 per cent. is left by calcination.

The mean of three analyses of ammonio-citrate of iron (B. P. 1867) gave ferric oxide by calcination 27·4 per cent., proving the accuracy of the present officinal test and the fallacy of the 1864 Pharmacopœia.

Of course it may so happen that the British Pharmacopœia does not intend that the acid shall be saturated with oxide, and has merely framed its formula with other objects in view.

If it were so contemplated I think a great improvement in the formula would have been made if a salt had been recognized that would have sealed easily, and represented the best specimens as met with in trade.

An examination of the ammonio-citrate of the leading London manufacturers indicates that at the present time uniformity is the exception rather than the rule; that the British Pharmacopœia scales are not to be met with; that the preparation of the London Pharmacopœia, or a modification of it, is still used; and that the *complete saturation* process is in some cases followed.

London Pharmacopœia, 1851, . .	34·0	(determined).
British Pharmacopœia, 1867, . .	27·4	"
Manufacturing Process (saturation)	30·7	"
Trade specimens, . . .	(1) 26·0	
" . . .	(2) 24·1	
" . . .	(3) 30·1	
" . . .	(4) 30·0	
" . . .	(5) 33·4	
" . . .	(6) 33·3	
" . , .	(7) 29·4	

As uniformity in all substances used in medicine is of vital importance I would suggest that at the earliest convenient date the use of ferric oxide sufficient to the complete saturation of the acid by the aid of a water-bath heat be recognized, and that the formula of the British Pharmacopœia be amended by substituting *nine and a half fluid ounces* of the persulphate of iron solution for the present quantity of eight fluid ounces, or as much hydrated ferric oxide to one hundred parts of citric acid as shall be equivalent to fifty parts (49·6) of anhydrous ferric oxide.

Laboratory, 40, *Aldersgate street, E. C.*

—*Pharm. Journ. and Trans.*, *Dec.* 13, 1873.

ON VARIOUS METHODS FOR THE PREPARATION OF BINIODIDE OF MERCURY.

By E. B. Shuttleworth.

In devising or selecting a formula for the preparation of any compound there are three considerations which are essential to a correct and satisfactory conclusion. These are, that the contemplated prod-

uct be obtained (*a*) of the best quality; (*b*) at the lowest cost; (*c*) with the least trouble. As a general rule, the relative importance of these conditions is indicated by the order in which they are given; quality is, or should be, the great essential, while cost and convenience are of secondary consequence. Too often, however, this order is reversed, and all considerations are made subordinate to that of cost; but, in no case, can this be justifiable; it is only when the matter of quality is satisfactorily settled that we are at liberty to decide in favor of that process which promises to be the most economical. The question of economy is, however, to the pharmacist, a most important one, and, in cases of scarcity of material or high prices, merits his best attention.

A case in point is that of the red iodide of mercury—a compound which is almost invariably prepared by the pharmacist. The recent inflation in the price of iodide of potassium, and the high figure which it at present maintains, demand the utmost economy in its use. In view of this it may be opportune to review the various processes which have been devised for the preparation of the biniodide of mercury, so that we may be able to obtain the best results with the least possible expenditure of materials.

The first process which might be noticed is that in which the biniodide is formed by a direct union of the elements composing it. Mercury and iodide are triturated, or agitated together, a little alcohol being added to control the reaction. In inexperienced hands this process yields an imperfect product; is exceedingly wasteful and troublesome, and may be so dismissed.

A better process is that of the British Pharmacopœia, 4 parts of perchloride of mercury, dissolved in 60 parts of boiling water, are mixed with 5 parts of iodide of potassium, in 20 parts of boiling water. The iodide is, theoretically and practically, one-tenth of one part in excess of that actually required for the decomposition. Its object is to prevent contamination of the product with the mercuric salt. This excess appears useless, first, because, with any ordinary care, the operator can ascertain the moment the decomposition is complete; and, again, if any slight excess of mercuric salt happened to be present, it would certainly be removed in the subsequent copious washings to which the biniodide is subjected. This excess is not only wasteful as far as the iodide of potassium is concerned, but of the biniodide also, as the latter salt is soluble in the former. The use of

boiling water is unnecessary, as the quantity ordered would, if cold, dissolve the salts readily. The precipitate from a hot solution is more granular than that from one which is cold, and for the preparation of ointments it will be conceded that the finer and softer salt is to be preferred.

In the process of the U. S. Pharmacopœia the excess of iodide is the same as that of the B. P., but cold water is applied for solution.

The most satisfactory and economical results I have obtained from the decomposition of the salts alluded to, have been by employing 4 parts of the mercuric salt, in powder, dissolved in 64 parts of cold water, adding a sufficient quantity of solution of iodide of potassium (4·9 parts in 10 parts of water). The yield will be 6·7 parts of a salt sufficiently dry to be pulverulent. This is very little short of the theoretical yield; 271 parts $HgCl_2$ require for decomposition 332 parts KI, and should produce 454 parts (6·701) HgI_2.

Another method which may be easily and economically pursued is that in which iodide of iron is used instead of iodide of potassium. The relative prices of iodine and iodide of potassium are generally as 21 to 19, and 254 parts iodine are equal to 332 of iodide of potassium. If, therefore, we mix 3·75 parts of iodine with 4 parts of cold water and sufficient iron wire to saturate, allowing the mixture to stand for several hours, heating towards the close of the reaction, we shall obtain a solution of iodide of iron equivalent in iodine strength to the quantity of iodide of potassium required to decompore 4 parts of perchloride of mercury. The yield will be about 6·7 parts, and the quality of the product is equal to that produced in any other way, but the precautions of using the iron solution as soon as possible, and of washing the precipitate as soon as deposited, must be observed; otherwise the product might be contaminated with a basic ferric chloride, which in time is thrown down. It will be seen that this method is as economical as could well be devised; the operator getting the profits of the manufacturer of iodide of potassium, minus the labor of the former in making the iodide of iron.

The last process which we shall notice is that devised by Mr. Williams, described in the "Chicago Pharmacist." In this, the use of a large quantity of water, for the solution of the mercuric salt, is obviated by employing a concentrated solution of chloride of ammonium, in which the mercuric salt dissolves readily. Four parts of perchloride of mercury are dissolved in four parts of water to which 2 parts

of chloride of ammonium have been added, 5 parts of iodide of potassium are dissolved in 5 parts of water, and the solutions are mixed. It will be seen that, in this way, 9 parts of water suffice for solution, while, otherwise, at least 70 would be required. This is a great convenience, especially when large quantities are operated upon; but, according to trials which I have made, the method is not economical, on account of the biniodide being soluble in the solution of chloride of ammonium. By draining the newly formed salt, as soon as deposited, the loss may be rendered smaller than if water were at once added to the mixture; but the product will not exceed 6·150 parts against 6·701, the theoretical yield, or 6·700, the yield by the method with simple water. In large operations, some of this dissolved biniodide may be recovered by evaporating to dryness the drainings and first washings, washing away the deposited chloride of ammonium, and thus leaving the more insoluble biniodide. The operation must be performed quickly, or the biniodide will also dissolve. Williams' method cannot be recommended except where expedition and convenience are paramount considerations to that of cost. The product is of a darker color and more granular than by other methods, and somewhat resembles that prepared by the old Edinburgh process, in which the compound formed by a direct union of mercury and iodine is dissolved and crystallized from a solution of chloride of sodium.

A word in regard to Williams' method for purifying the green iodide of mercury. I have lately tried this plan and found it to work very satisfactorily, being equally efficient, quite as convenient, more expeditious, and much more economical than the process with alcohol. The washing may be best performed by repeated agitation and decantation, using fresh solution of chloride of sodium.—*Canadian Pharm. Journ., Dec.*, 1873.

PREPARATION OF CARBOLIZED RESIN CLOTH.*

By Edward Lund, F.R.C.S.

The author having found some difficulty in preparing the antiseptic carbolic gauze recommended by Professor Lister (see Pharm. Journ. [3] vol. iii., p. 41) in the way indicated by him, has sought to modify the process by taking advantage of the property possessed by carbolic acid, and first pointed out by Professor Lister, that it can be

* *British Medical Journal*, Dec. 6, p. 654.

combined with resin and resinous matters generally with great facility, and that when so combined nearly all its irritating acrid properties are neutralized, while the resulting compound retains the power of evolving an antiseptic vapor at the temperature of the body. It is well known that to touch the mucous membrane, or even the skin of the lips, with pure carbolic acid, occasions pain and excoriation, but the author found, in experimenting on a mixture of one part of carbolic acid and five parts of resin, that all the acridity was destroyed, the acid being still present, but stored up and rendered harmless by the new combination. He, therefore, came to the conclusion that this property allowed of the easy preparation, without the aid of heat, of a valuable application for antiseptic purposes in surgery; all that would be required was the saturation of a very thin calico gauze with a mixture of resin and acid dissolved in methylated spirit, and drying it quickly after pressure had been applied to it. But the compound of resin and acid thus left on the threads of the calico after evaporation was found to be too brittle and adhesive for a wound covering, and therefore to impart flexibility castor oil was added, as being the only accessible fixed oil entirely soluble in spirits of wine. The author finds that some samples of castor oil, in consequence of adulteration, are not entirely soluble in alcohol, but he is content to use an oil that will unite with twice its bulk of rectified spirit. Mr. Lund thus describes the proportion of the ingredients and the preparation of the antiseptic cloth:

"Carbolic Acid Crystals melted, . . 2 fluid ounces.
Castor Oil, ... 2 " "
Purified Resin, by weight, . . . 16 ounces.
Methylated Spirit, ... 40 fluid ounces.
Mix.

"To dissolve these ingredients easily, we must add them together in a certain order. To the resin, liquefied by heat and removed from the fire, add one-third part of the spirit; when these are well mixed, put in another third of the spirit, in which the oil has been previously dissolved; and, lastly, the acid in the remaining portion of the spirit must be slowly added to complete the mixture. The whole must be agitated until all the constituents are thoroughly incorporated and afterwards passed through a muslin filter to get rid of any extraneous matters. If this plan be not adopted, the resin will concrete into a mass at the bottom of the vessel, and it will be extremely diffi-

cult afterwards to get it perfectly mixed. When thus prepared, the solution is of a dark color, clear and free from any deposit; and it can be kept unchanged, in a well corked bottle, for a long time. It is, in fact, a kind of thick varnish. To make the resin cloth, as I term it, for the sake of distinguishing it from the cere-cloth dressing for wounds, which I described in a paper read at the Leeds meeting of the British Medical Association in 1869, it is needful to select a very thin, cheap, porous calico or calico-muslin, known in the trade as 'mulls,' which costs at wholesale price about four shillings per piece of twenty yards. This, divided into strips, each about nine inches wide and six yards long, is reduced to a convenient form for general use. The calico should be unbleached and free from stiffening, and each of the strips should be carefully folded up, so as just to lie flatly in the press, as I am about to explain.

"An ordinary square tincture press may be used to press the cloth, or such a press as is sold for copying letters, to which a tin box has been adapted, so that the plates of the press can work in it; and into this box the folded calico is placed, the solution being poured over each successive layer, so as to wet perfectly every part of it. There should be an aperture at the bottom of the box, with a tap by which the superfluous fluid can be removed, collected and used a second time. The press being brought into action, the pile of calico should be squeezed as dry as possible, all the fluid drained off, the resin-cloth taken out, laid over a few lines of string in a warm room with a good ventilation; and in an hour or two, when all traces of smell of the methylated spirit have departed, the cloth may be rolled up and kept in tin cases ready for use.

"It is difficult for me to state the exact cost of resin-cloth made by this process, for I have not yet bought the materials for its preparation at such prices as could be had if it were to be manufactured in large quantities; but, allowing for some slight reduction, where six or eight twenty-yard pieces of calico are bought at a time, and the solution made by the gallon, I find it comes to a fraction less than threepence per yard of average width of 44 inches. In using it as a dressing for wounds, I deal with it precisely as I would do with Mr. Lister's antiseptic gauze, for which it must be taken as a cheap and ready substitute. I generally apply ten folds of it over the face of a wound, as in an amputation, and perhaps six folds higher up the limb for some distance, and I cover it with the macintosh hat-lining, so as

to distribute the serous discharges through the breadth of the resin-cloth thus covered. I have never found it to irritate the skin in any degree beyond what the oiled silk (protective), liberally used, could control; except once, when, in the hurry of preparing the resin-cloth, I had neglected to dry it thoroughly, and it was applied, still moist with the methylated spirit, the naphtha in it seeming to be the chief cause of the skin irritation. But if this precaution be observed, I believe this resin-cloth will be found a very useful addendum to our means of treating wounds and abscesses on antiseptic principles."—*Pharm. Journ., Dec.* 20, 1873.

Minutes of the Pharmaceutical Meeting.

The regular monthly meeting was held January 20th, 1874. On motion, Peter Williamson was elected President, and the minutes of last meeting were read and approved. Among the members from a distance present was Mr. Chas. A. Heinitsh, of Lancaster, Pa.

Mr. C. A. Weidemann, on behalf of Mr. Geo. R. Mariner, presented for the College Library a volume, entitled "The Modern Practice of the London Hospitals, Dublin, 1772."

The reading of papers being next in order, Dr. A. W. Miller had the specification read which forms part of letters patent No. 127,568, dated June 4, 1872, and issued to Robert A. Chesebrough, of New York, and then read an article on Vaseline, which will be found in another place in the Journal.

Richard V. Mattison read a paper on Saccharated Pancreatin and the Emulsion produced by the use of it and Cod Liver Oil, which will be found elsewhere in this number.

A. P. Brown, of Camden, stated that he had used saccharated pancreatin, and that physicians whom he had supplied with it had used it successfully. At the suggestion of one of his medical friends, he had treated the Parotid gland by a process similar to that used for extracting pancreatin, and obtained a product which possessed in a degree the properties of pancreatin.

Prof. Maisch presented specimens and read some pharmacognostical notes on *Cort. Granati, Chiretta, Trompatilla* (a new remedy from Mexico, and said to be successfully used in the treatment of hydrophobia), a new false *Angustura, Bouvardia triphylla*, and a report of an examination of a substance presented to him, which proved to be carbazotic acid.

Dr. W. H. Pile stated that he had made some phosphoretted resin according to the formula published by A. W. Gerrard, in *Pharmaceutical Journal*, December 6th, 1873, and republished in *Am. Journal of Pharmacy*, January, 1874. He confirmed the statements made by the author, recommended the preparation, and laid particular stress on the directions to conform to the temperatures given in the process.

Edwin McC. Boring presented samples of Castile soap, and said that he had successfully cut very hard soap by previously heating the bars in an ordinary oven to between 150 and 200° F., care being taken not to leave them in long enough to make them too soft.

Prof. Maisch called the attention of the meeting to the circular issued by the American Pharmaceutical Association, containing the report of the Committee on Elixirs, John F. Hancock, Chairman; and he urged the adoption of the formulas in order to secure uniformity. An extract of the report, giving the formulas, will be found below:

Compound Powder of Cochineal.

Take of Cochineal in Powder,	120 grains.
Alum, in powder,	120 grains.
Carbonate of Potassium,	120 grains.
Bitartrate of Potassium,	240 grains.

Mix. Keep in well-stoppered vial.

Compound Tincture of Cochineal.

Take of Compound Powder of Cochineal,	120 grains.
Diluted Alcohol,	2 fl. ounces.

Slightly warm the diluted alcohol and mix with the powder, macerate in a stoppered vial for twelve hours, and filter for use. This is permanent, and imparts a beautiful red color to elixirs and solutions which have no acid properties.

Spirit of Orange.

Take of Oil of Sweet Orange,	1 fluid ounce.
Stronger Alcohol,	16 fluid ounces.

Mix. This is made in proportions to conform with the spirits of the U. S. P., and is a pleasant and convenient form of orange flavor.

Simple Elixir.

Take of Spirit of Orange,	½ fluid ounce.
Stronger Alcohol,	4 fluid ounces.
Cinnamon Water,	6 fluid ounces.
Syrup,	6 fluid ounces.

Mix.

This is a turbid mixture. For many purposes it is not necessary to filter before using, but generally it should be clear, particularly when used for physician's prescriptions, and in making some elixirs. Filtering paper pulp, made by beating scraps of chemically pure filtering paper in a mortar, in the proportion of sixty grains of paper to half fluid ounce of water, added to sixteen fluid ounces of the elixir, agitated briskly for a few moments, and filtered, renders the elixir perfectly limpid. The paper is free from the chemical objections urged against carbonate of magnesium, chalk, etc., which are frequently used as clarifying agents.

The very pleasant taste and odor of this elixir, its freedom from color and chemical impurities, commends it for general use as a medicating vehicle.

Red Elixir.

Take of Comp. Tincture of Cochineal,	½ fluid ounce.
Simple Elixir,	16 fluid ounces.

Mix.

This is sometimes preferred as a simple elixir because of its beautiful color.

Elixir of Calisaya Bark.

Take of Tinct. Cinchona, U. S. P., 1870,	22 fluidrachms.
Simple Elixir,	sufficient to make 16 fluid ounces.

Mix and filter. This contains *the virtues* of two grains of Calisaya bark in one fluidrachm.

Elixir of Calisaya Bark with Iron.

Take of Elixir of Calisaya Bark, . . . 15 fluid ounces.
Warm Distilled Water, ... 1 fluid ounce.
Citrate of Iron, *soluble*, ... 128 grains.

Dissolve the iron in the warm water and add the elixir. Filter if necessary. Each fluidrachm of the unfiltered elixir contains one grain of the iron salt, and the virtues of nearly two grains of Calisaya bark.

Compound Elixir of Cinchona.

Take of Compound Tinct. Cinchona, U. S. P., 1870, 22 fluidrachms.
Simple Elixir, . sufficient to make 16 fluid ounces.

Mix and filter. If not required for immediate use, this and also the Calisaya elixir should stand for about twelve hours before filtering.

Compound Elixir of Cinchona with Iron.

Take of Compound Elixir of Cinchona, . . 15 fluid ounces.
Warm Distilled Water, . . . 1 fluid ounce.
Citrate of Iron, *soluble*, ... 120 grains.

Mix. Proceed as for Elixir of Calisaya with Iron.

Elixir of Citrate of Iron.

Take of Citrate of Iron, *soluble*, . . . 256 grains.
Warm Distilled Water, ... 1 fluid ounce.
Simple Elixir, ... 15 fluid ounces.

Dissolve the iron in the warm water and mix with the simple elixir. Filter.

Elixir of Pyrophosphate of Iron.

Take of Pyrophosphate of Iron, . . . 256 grains.
Warm Distilled Water, . . . 1 fluid ounce.
Simple Elixir, ... 15 fluid ounces.

Make according to directions for Elixir of Citrate of Iron.

This is the same medicinal strength as Prof. Diehl's formula.

Elixir of Citrate of Bismuth.

Take of Citrate of Bismuth and Ammonium, . 256 grains.
Warm Distilled Water, ... 4 fluid ounces.
Water of Ammonia (drop by drop), . sufficient.
Simple Elixir, sufficient to make 16 fl. oz. of finished elixir.

This is the same bismuth strength as Prof. Diehl's formula, viz., two grains of citrate of bismuth and ammonium in each fluidrachm.

Elixir of Pepsin.

Take of Saccharated Pepsin, Scheffer's formula, 256 grains.
Sherry Wine, ... 14 fluid ounces.
Simple Syrup, ... 2 fluid ounces.
Fluid Extract of Ginger, ... 25 drops.

Dissolve the pepsin in the wine, mix the fluid extract of ginger with the syrup, and mix altogether. Filter if necessary. Contains two grains of pepsin to the fluidrachm.

Elixir of Valerianate of Ammonium.

Take of Valerianate of Ammonium in crystals, 256 grains.
Compound Tinct. of Cochineal, . . $\frac{1}{2}$ fluid ounce.
Simple Elixir, ... 15$\frac{1}{2}$ fluid ounces.

Dissolve the valerianate of ammonium in two ounces of the simple elixir, and carefully add water of ammonia until the solution is exactly neutral to test-paper. Mix with the balance of simple elixir, and then add the compound tincture of cochineal.

This is the formula of Professor C. Lewis Diehl, with the exception of the

simple elixir. Notwithstanding this preparation contains a larger quantity than usual of the valerianate of ammonium (two grains of the salt in each fluidrachm), yet its unpleasant taste and odor is effectually masked by the fragrance of the simple elixir.

Elixir of Valerianate of Ammonium with Quinia.

Take of	Sulphate of Quinia,	128 grains.
	Elixir of Valerianate of Ammonium,	16 fluid ounces.

Mix. Filter if necessary. Sulphate of quinia is soluble in elixir of valerianate of ammonium to twice the quantity here ordered.

Compound Elixir of Sumbul.

Take of	Tincture of Sumbul (Brit. Ph. 1867),*	4 fluid ounces.
	Syrup,	4 fluid ounces.
	Compound Tincture of Cochineal,	½ fluid ounce.
	Elixir of Valerianate of Ammonium,	8 fluid ounces.

Mix.

The elixir is slightly turbid, owing to the resin of the sumbul, which, if filtered out, must lessen its medicinal powers. This is given as a type of *extemporaneous elixirs*, which should not be filtered, but dispensed with the direction, "*Shake the vial before pouring out each dose.*"

Elixir Pyrophosphate of Iron, Quinia and Strychnia.

(C. Lewis Diehl's Formula.)

He says: "This requires particular manipulation, which precludes the use of simple elixirs.

"The following formula, the result of concert experiments of my friend, Mr. E. Scheffer, and myself, has been used by me since autumn, 1869, and I can recommend it as uniformly successful, when the manipulations are carefully conducted:

Take of	Sulphate of Quinia,	60 grains.
	Strychnia,	1 grain.
	Citric Acid,	5 grains.
	Stronger Alcohol,	3 fluid ounces.
	Spirit of Orange,	80 minims.
	Syrup,	6 fluid ounces.
	Pyrophosphate of Iron,	½ troy ounce.
	Distilled Water,	7 fluid ounces.
	Water of Ammonia,	suf. quantity.

"Triturate the sulphate of quinia, strychnia and citric acid together, until minutely divided, then add the alcohol and spirit of orange. Warm the syrup slightly (to about 150° F.), and add to the turbid mixture, when, upon stirring, the mixture becomes clear. To this add the pyrophosphate of iron, previously dissolved in the distilled water, and finally, carefully add water of ammonia, drop by drop, until the elixir is perfectly neutral to test-paper; filter. The finished preparation has a greenish-yellow color, a pleasant flavor of orange, and is permanent."

Bitter Wine of Iron.

(James T. Shinn's Formula, slightly modified.)

We have had several years' experience with the following formula, and it has given entire satisfaction to prescriber, dispenser and consumer.

Take of	Sulphate of Cinchonia,	45 grains.
	Sulphate of Quinia,	15 grains.

*This is made by macerating and displacing two and a half ounces avoirdupois of powdered sumbul with proof spirit, so as to obtain one imperial pint (19 fluid ounces and 1¼ fluidrachms U. S. measure) of tincture.—Ed.

Citric Acid,	60 grains.
Citrate of Iron, *soluble*,	240 grains.
Concent. Tinct. Fresh Sweet Orange peel,	3 fluid ounces.
Distilled Water,	3 fluid ounces.
Sherry Wine,	8 fluid ounces.
Syrup,	2 fluid ounces.

Dissolve the sulphates and citric acid in two ounces of the water, and the iron in the remaining ounce of water; mix the two solutions, and add the other ingredients, previously well mixed together.

The only change from the original formula is in the kind and quantity of orange flavor, for which we claim an improvement. See *Proceedings of Amer. Pharmaceutical Association*, 1864, p. 234.

Elixir of Gentian with Iron.

Take of	Extract of Gentian,	128 grains.
	Citrate of Iron, *soluble*,	128 grains.
	Distilled Water,	1 fluid ounce.
	Simple Elixir,	15 fluid ounces.

Dissolve the extract and iron in the water, *warmed*, and add the simple elixir; filter.

Elixir of Bromide of Potassium.

Take of	Bromide of Potassium,	640 grains.
	Red Elixir,	16 fluid ounces.

Mix.

This contains five grains of the salt in each fluidrachm, and is given as a type. The red elixir does not seem to answer for the elixir bromide of calcium; caramel is a more suitable coloring substance for the calcium elixir. We prefer the simple elixir in this case, and to use no coloring substance.

Syrup of Licorice Root.

Take of	select Licorice Root, in moderately coarse powder,	4 troy ounces.
	Diluted Alcohol,	sufficient quantity.
	Sugar,	12 troy ounces.

Moisten and pack in a conical percolator; macerate for 12 hours, percolate to exhaustion. Place the tincture over a water-bath until reduced to ten fluid ounces, filter, and then add the sugar; lastly, sufficient distilled water to make sixteen fluid ounces of finished syrup.

The syrup of licorice root, when carefully prepared, is more effectual and more convenient for masking the bitterness of quinia, than is the very popular "compound elixir of taraxacum," and being free from the stimulating influence of alcohol, which is present in the elixir, is well adapted for children. The proper proportions will be one grain of quinia (any salt of it) to the fluidrachm, and if those for whom quinia is ordered will take the precaution to chew a small quantity of licorice root previous to taking the quinia mixed with the syrup of licorice, in the proportions here recommended, scarcely any bitterness will be observed. As a matter of course, acids mixed with quinia and licorice syrup will immediately develop the bitter taste.

It has of late become fashionable to use glycerin as an antiseptic and solvent in elixirs, as well as other compounds of pharmacy, but our aversion to the general use of glycerin for internal administration, for various reasons, has prevented its introduction in our formulas.

The results of our investigations of liquid pepsin preparations will not warrant the introduction of more than the one formula, which is really a wine of pepsin, and has been found useful in many cases.

Mr. A. P. Brown stated that he had made some of these elixirs, and found them to answer their intended purposes well; the simple and red elixirs can be used as vehicles, and may be diluted with water without becoming turbid.

No further business coming before the meeting, it then adjourned.

JOSEPH P. REMINGTON, *Registrar.*

Pharmaceutical Colleges and Associations.

NEW YORK COLLEGE OF PHARMACY.—At the conversational meeting held January 8th, Dr. L. Feuchtwanger delivered a lecture on Alumina and its Products.

NEW HAMPSHIRE PHARMACEUTICAL ASSOCIATION.—About 50 pharmacists assembled at Concord on Jan. 22, with the view of organizing a State pharmaceutical association. The officers of the meeting were Dr. Ch. A. Tufts, of Dover, President; C. F. P. Hildreth, of Suncook, Vice-President; G. F. Underhill, of Concord, Secretary, and H. B. Foster, of Concord, Treasurer.

THE NEW JERSEY PHARMACEUTICAL ASSOCIATION will hold its annual meeting on Wednesday, Feb. 11th, 1874, at Kepler Hall, Jersey City, at 10 o'clock A. M., and have at the same time an exhibition of pharmaceutical preparations, appliances, &c., which promises to be of much interest, several New York wholesale houses having agreed to lend their assistance. It is also proposed to have an evening session, to which the public will be invited. The Association will, we understand, again endeavor to have a pharmaceutical law passed by the State Legislature.

CAMDEN PHARMACEUTICAL ASSOCIATION.—Our friends in New Jersey are very active. Besides the Association, embracing the pharmacists and druggists of the entire State, there are now two local pharmaceutical associations, one in the City of Newark, the other in the City of Camden, the latter having been organized Nov. 28th last, with the following officers: Thos. G. Rowand, President; Simeon Ringel, Vice-President; A. P. Brown, Secretary, and Jas. A. Armstrong, M.D., Treasurer. In the matter of pharmaceutical organizations, the State of New Jersey is now ahead of all other States of the Union, and with the activity displayed by them, their objects will doubtless be crowned with success.

MARYLAND COLLEGE OF PHARMACY.—At the regular meeting, held Jan. 8th, 1874, the following officers were elected for the ensuing year: First Vice-President, Joseph Roberts, Ph. D.; Second Vice-President, A. P. Sharp; and Messrs. F. Hassencamp and N. Hynson Jennings, members of Examining Board. The several standing committees were appointed, and a special committee to take into consideration the feasibility of building a suitable hall for the College, and to petition the Legislature for aid thereunto.

A special meeting was appointed for Wednesday, Jan. 14th, to take action on report of Committee on Revision of By-Laws, &c.

J. Newport Potts, Rep. M. C. P.

Cincinnati College of Pharmacy.—At the annual meeting, held Jan. 13th, the following officers were elected for the ensuing year: President, J. F. Judge; Recording Secretary, Jos. N. Feemster; Corresponding Secretary, Chas. H. Van Slyck; Treasurer, W. H. Negley; Board of Trustees, F. L. Eaton, J. D. Wells, T. L. A. Grere, Chas. Schmidt. The members of the Board holding over are Chas. Faust, Otto Taxis, John G. Fratz and A. J. Tully.

Reports of the Secretary and Treasurer were read and adopted. President J. F. Judge delivered a short address, congratulating the College on its success during the past year, the increase in the number of members and its satisfactory financial condition. The first course of lectures since the reorganization of the College was the session of 1871–72. It was attended by 32 students, most of whom were residents of this city. The second course, session of 1872–73, followed, with 51 students, a fair proportion of whom came from a distance, many from different points in Ohio; some from Illinois, Indiana and West Virginia, and one from Canada. Ten students of this course received the degree of "Graduate in Pharmacy." The present course is attended by 70 students. The increase in the number of students shows that the College is in a very healthy and prosperous condition. There are six lectures each week, delivered by gentlemen of long and practical experience, and give general satisfaction to the class. The following are the members of the faculty for the present year: J. F. Judge, M.D., Professor of Chemistry; E. S. Wayne, M.D., Professor of Materia Medica and Botany; W. B. Chapman, M.D., Professor of Pharmacy. The bill regulating the practice of pharmacy, which passed the Legislature last spring, has been promptly complied with; every retail druggist engaged in the business when the law went into effect has been registered, and many persons desiring to engage in business for themselves have appeared before the Examining Board. A large number of clerks have also been examined, most of whom passed very creditably.

A large number of donations of books, chemicals, etc., have been made to the College during the past year; many by our own members and friends of the College here, and quite a number from Philadelphia, St. Louis and other places; and though our friends have been very liberal, there still is room, and we hope for a continuance of the same. Any donations to the library or cabinet will be thankfully received, and may be sent at our expense, per express, addressed to any of the officers of the Association.

Chas. H. Van Slyck, *Cor. Secretary.*

Saginaw Valley Pharmaceutical Association.—At the annual meeting of the Saginaw Valley Association, held in East Saginaw, January 14th, 1874, the following officers were elected for the ensuing year:

President, Dr. S. S. Garrigues; Vice-President, L. Simoneau; Secretary,

J. F. Street, Bay City; Finance Committee—A. A. Dunk, East Saginaw, E. Aldridge, Bay City.

After the election of officers the subject of legislation connected with pharmacy came under general discussion.

Editorial Department.

Nostrum Quackery.—The "Atlanta Medical and Surgical Journal" for August, 1873, contains, under the above caption, an article which has evidently been written by one who has studied the subject with care, and approaches the question, not from the standpoint of partiality, but by searching for the causes in order to find a remedy for an evil which is spreading and increasing all over the world, and which the most stringent prohibitory laws of continental Europe have failed to suppress. The article in question is so free from the passionate condemnations which may be met with in many medical journals, and at the same time bears such strong evidence of its writer's full acquaintance with all sides of the complicated question, that we had hoped it would have received the attention of most medical journals, and thus originated a discussion from which the most beneficial results might have been expected. Thus far our hope has been disappointed.

In reproducing the article here, we believe that it will be read with that interest which the candor and frankness pervading it deserves:

Nostrum quackery has been so often the theme of essay and dissertation, we can scarcely hope to say anything new upon the subject, and yet it is of so much interest to the profession, and so nearly touches our daily occupation, that we may venture to throw out a few random thoughts for what they may be worth.

When we walk into our drug-stores and glance over their shelving, we are confronted everywhere with an army of nostrums which are evidently displayed for a purpose—they certainly *mean business*. If we should possess so far the confidence of the proprietors as to be permitted to inspect the ledger, we would probably find that the sales of these so-called remedies yield a large percentage of the profits of the business.

It is useless to blink the fact that these preparations, whether for weal or for woe, supply a great public want; *the people will have them*, in spite of all we may do or say.

It is notoriously true that all efforts thus far made by the medical profession to suppress the great and growing evil have most signally failed. Why is this?

There are many reasons which might be assigned, but for the present we shall confine our attention to two: 1. Nostrums supply a want which the community feel, and for which they are willing to pay their money; 2. The opposition of the medical profession to the sale of quack preparations is set down to selfish greed, and has not yet been divested of the *appearance*, at least, of self-seeking.

Until we of the profession are willing to place ourselves in a position of pecuniary disinterestedness, and, at the same time, to acknowledge and supply the want of the public for household remedies, we may as well 'bate our breath in the matter.

It is fairly objected to the present system of nostrum quackery that it is dangerous to the health and lives of the people, because the composition in constituents and quantities of its preparations is withheld from the profession and the public. If alarming symptoms ensue, there is no means of determining the agency of the medicine in the case. If serious illness follows, the attending physician is left in the dark as to the medicines which have actually been taken in the compound, and their probable influence upon the symptoms present.

These remedies are dangerous, because of the difficulty of effecting perfect combination of materials when operating upon a large scale, as witness the case of poisoning by "Mrs. Winslow's Soothing Syrup," at San Francisco and at St. Louis. They are dangerous, because of the liability to error incurred in the employment of cheap and unskilled labor for many of the details of manufacture in very large establishments.

They are objectionable, because there is no recourse to be had upon the manufacturer in a distant State, in the event of death or injury resulting.

In the way of *remedy* for these acknowledged evils, we suggest that the medical profession recognize the want of household remedies by publishing *authoritative formulæ* for the use of pharmacists, who may compound them at their counters and keep them on hand for the ready and convenient supply of *all the real wants* of families and of individuals in this direction.

Let vendors of patent and proprietary medicines and nostrums be required by law to fully and distinctly set forth upon their labels the names and quantities employed of all the materials used in the compound, together with a working formula; and let suitable penalties be attached to all fraud and deception with reference to the compound.

Moreover, let physicians encourage the establishment of small pharmacies in skilled hands, from which all nostrums which do not conform to the above requisitions are rigidly excluded; and when this is impracticable, let them attach dispensing apartments to their own offices. B.

We have but little to add to the foregoing at present; but we desire to state that we know of not a few drug-stores where one is *not* confronted everywhere with an array of nostrums; but we also know of others where gorgeous show cards are displayed in every nook and corner, and where handbills advertising all sorts of nostrums are freely distributed, practices which should be discountenanced. The preparation of household remedies by authorized formulas has been proposed years ago, without having met with the requisite support; we believe this course to be the only rational one calculated to be an entering wedge for the suppression of nostrum quackery.

A great deal might be said about the proposition to publish upon the labels of proprietary medicines the full working formulas. The proposition might be qualified to exclude all drugs which, if an overdose of the medicine be taken, would endanger the life or health of the patient, as in the cases above alluded to, or which are likely to create a morbid appetite for the ingredients, if continually used, like the stomach bitters, many so-called elixirs, &c.

Regarding the alternative proposition in the concluding sentence of the above article, we trust it may be long before the cure of one evil will be attempted by creating another.

In an editorial contained in the "Medical and Surgical Reporter" of Aug. 30, the true way to suppress quackery, in and out of the profession, is regarded to be by educating the people on medical subjects, and the establishment of a society in England is cited whose object is to supply this information to the

public by the distribution of gratuitous tracts on sanitary subjects. It is doubtless correct that the public needs correct information on hygiene and kindred subjects, which to the adult population can be supplied by pamphlets written in a plain and attractive style, and by popular lectures delivered by those who understand the art of expressing leading scientific principles in a plain and simple language, devoid of technicalities; but it seems to us that the introduction of this topic into at least the more advanced classes of our public schools could not but have the most beneficial results in the future.

Selling of Liquor by Apothecaries.—The readers of the "Journal" are aware that we are not an advocate of the selling of liquor as a beverage by apothecaries; but that we desire to have it restricted for medicinal purposes only. We have been taught to look upon Spiritus frumenti, Spiritus vini gallici, Vinum xericum, &c., as remedial agents, when prescribed by a physician, and likewise that the pharmacist is not responsible for mistakes or misuses by the patient of the prescribed medicine, provided the prescription has been accurately compounded and correctly labelled, and the dose ordered is not excessive. In this, however, it seems we have been mistaken. President Judge John Dean, of the 24th judicial district of Pennsylvania, which is composed of the counties of Huntingdon, Blair and Cambria, last fall sentenced several apothecaries of Tyrone for selling liquor without a license, and then made the following remarks, which we take from one of our cotemporaries:

Druggists are authorized to sell liquor for medical purposes, *subject, however, to the risk of indictment.* A physician's prescription is not of itself a safeguard for the druggist. If the latter, *even on the prescription of a regular physician,* sells liquor to persons of known intemperate habits, or to those who are known to use liquor as a beverage, *he is liable to indictment,* and, if found guilty, *will be punished to the extent of the law.* In short, in the opinion of the Court, *a druggist who sells liquor for any purpose whatever, or upon the prescription of the most eminent physician of the country, does so at his own risk.*

We know nothing of the merits of the case or cases in question; but, with all due deference to the legal attainments of the learned judge, we would respectfully submit, that if the opinion of the Court be the law of the land, then it would be high time for pharmacists to critically examine every prescription, and to refuse to put up such as *in their opinion* might injure the patient, directly or indirectly, notwithstanding they have, until now, generally supposed that, from education and experience, the physician is better qualified than the pharmacist for the selection of the proper remedies in each special case. The confusion which would result from such a course, the dangers to which patients would be exposed, the uncertainty of the attending physician regarding the effects of the medicines furnished upon his prescriptions, and the abuses generally to which such a course would lead, are evils patent to all and so great that, as heretofore, the responsibility of prescribing the proper remedies must of necessity be left with the physician, while the accountableness of the pharmacist must be confined to the conscientious execution of the physician's order and the quality of the remedies furnished.

THE STAMP TAX.—The Committee of the Philadelphia Drug Exchange, consisting of Messrs. Edward H. Hance and Alexander H. Jones, who had a hearing before the Committee of Ways and Means, as we informed our readers on page 43 of our last number, have reported on their visit and published the petition handed to Congress asking for the repeal of the stamp tax on medicinal preparations, and accompanied by a copy of the December number of the "American Journal of Pharmacy," as embodying upon pages 564—574 the views of all the pharmaceutical colleges and associations heard from until that time. The Committee state in their report:

It is to be remembered that, just at this time, suggestions were made looking toward *increased* taxation. The views of the Secretary of the Treasury and the Commissioner of Internal Revenue indicated a necessity for more revenue, and measures to increase the tax on whiskey and tobacco, to restore Schedule B, and to re-impose the duty upon tea and coffee, were discussed in official circles.

The instructions to *ask* for a total repeal, however, were strictly carried out, and the petitions asking for such repeal presented; but it was thought proper to state to the two Committees of Congress that if *all* could not be had, a *part* might satisfy the trade.

The Committee also refer to a letter, dated January 6th, from a member of Congress, stating:

Commissioner Douglass has not yet had an interview with the Committee.

The only expression I have heard has been one of respect for the weight of the petitioners, representing as they do all the States and Territories, and of the suggestions made by yourself and Mr. Hance. My judgment is that there is a general desire in the Committee to obviate the difficulty, if it can be done without opening a wide door to fraud, as I personally believe it can.

Also another letter, dated Washington, Jan. 10th, 1874, stating:

I am happy in being able to say that I believe the Committee of Ways and Means will embody a revision of that part of the Stamp Law, the modification of which is desired by the druggists, in their first Revenue Bill.

The following is an extract from a letter of Hon. W. R. Morrison, of Illinois, who writes to the St. Clair Pharmaceutical Association:

Petitions of a like character have been numerously presented during the present session of Congress. A delegation from Philadelphia, and perhaps from other cities, have been here and have had a hearing before the Committee, and the Commissioner of Internal Revenue is to be heard during the present week. It seems to be more the construction of the law (by the Commissioner) than the law itself which creates the hardships complained of. There seem to be very many interested beside yourselves, hence I think relief probable.

I shall be glad to further your interests to the best of my ability.

PANCREATIN.—The "Boston Medical and Surgical Journal" for December 11, 1873, contains a paper by Dr. Horace Dobell, entitled "Pancreatin and its Usefulness," which is in answer to one by Dr. E. H. Hoskin, published in the same journal in June last, and entitled "Pancreatin and its Uselessness." It

appears that the latter has been mainly experimenting with the pancreatic preparations of Dr. Hawley, while the former, who proposed the medicinal use of pancreatic juice (see Amer. Journ. Pharmacy, 1866, p. 143) some eight or nine years ago, has employed it ever since, and his views are therefore entitled to high consideration. The preparations preferred by Dr. Dobell are those of Messrs. Savory & Moore, made by processes which we believe have never been published.

That pancreatic juice forms an emulsion with fat was observed forty years ago by Eberle, and Valentin discovered in 1847 that the same liquid readily transforms starch into glucose. Cl. Bernard, C. Schmidt and others subsequently showed that the pancreatic liquid, when in contact with fats, decomposes the latter into glycerin and the fatty acids; the precipitate obtained by alcohol in pancreatic juice was found to be not only soluble again in water, but to possess in a high degree the properties mentioned before, of converting starch into sugar and of decomposing fats. Vanden Corput afterwards used this alcoholic precipitate under the name of pancreatin, and recommended it in the form of emulsion, aqueous solution, powder, &c., generally combining it with alkaline carbonates or bicarbonates.

The process recommended by R. V. Mattison, in the December number of this journal, for the preparation of the emulsifying principle, is based upon its insolubility in concentrated solutions of chloride of sodium.

The only two processes, with which we are acquainted, for obtaining pancreatin in a probably not chemically pure, but at least in a concentrated condition, are so easily executed that we take occasion to suggest to our readers its preparation by both methods, with the view of having their efficacy and relative merit thoroughly tested by intelligent physicians, and then to report the results. This seems to us to be the proper way of saving a remedial agent of apparent merit from probable neglect, and at the same time supplanting with preparations of established composition others which, no matter how meritorious they otherwise may be, are made by processes kept secret, thus preventing or at least retarding desirable improvements. The experiments we think should be made with the pancreas of the various herbivorous and omnivorous domesticated animals, and the physician should be made acquainted with the kind employed by him.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

Medical Lexicon—a Dictionary of Medical Science; containing a concise explanation of the various subjects and terms of anatomy, physiology, pathology, hygiene, therapeutics, medical chemistry, pharmacology, pharmacy, surgery, obstetrics, medical jurisprudence and dentistry; notices of climate and of mineral waters; formulæ for officinal, empirical and dietetic preparations; with the accentuation and etymology of the terms, and the French and other synonyms. By Robley Dunglison, M.D., LL.D. A new edition, enlarged and thoroughly revised by Richard J. Dunglison, M. D. Philadelphia: Henry C. Lea, 1874. Large 8vo, pp. 1131. Price: cloth, $6.50; leather, raised bands, $7.50.

As a standard work of reference, as one of the best, if not the very best

medical dictionary in the English language, Dunglison's work has been well known for about forty years, and needs no words of praise on our part to recommend it to the members of the medical and likewise of the pharmaceutical profession. The latter especially are in need of such a work which gives ready and reliable information on thousands of subjects and terms which they are liable to encounter in pursuing their daily avocation, but with which they cannot be expected to be familiar. The work before us fully supplies this want.

The title indicates the scope of the work, which is very extensive, embracing such a multitude of subjects and so many branches of science, that it is exceedingly difficult and next to impossible for one man to be equally posted in all and to keep up with the rapid progress made in the various departments; hence it is possible that, notwithstanding the most diligent research, old views may be retained occasionally or new facts overlooked or misconceived. In carefully going over the pages, we have observed but few cases of the kind, and mostly such of little importance. The origin of sumbul root has now been determined; it is yielded by Sumbulus moschatus. Rheum palmatum, undulatum and compactum do not yield the officinal rhubarb, the Pharmacopœia notwithstanding; it is most likely a new species, Rh. officinale, and, instead of a root, appears to be the ascending axis. Russian, or so-called Turkey rhubarb has long since disappeared from the market, and is now only met with in cabinets. The so-called Levant wormseed consists of the flower buds, not of the broken peduncles, of Artemisia cina. We should have preferred to find the chestnuts described under Castanea, instead of under Fagus; the leaves used for whooping cough are obtained from Castanea vesca, not from C. pumila. Viridia and veratroidia are names proposed for two alkaloids found in Veratrum viride; they do net occur in Sabadilla, and cannot, therefore, contaminate the officinal veratria. Pepsin is now obtained in this country by Scheffer's process, by precipitation with chloride of sodium, and is better than when made by the old process wth lead salt.

The revision of the present edition was commenced by the author of the work, and completed, after his decease, by his son, who has successfully endeavored to carry out the author's plan, to bring the volume up to the present time, and to retain for it the position of a work of satisfactory reference, which it has enjoyed for so long a time. Over 6000 new subjects and terms have been introduced, and, although the capacity of the page has been enlarged, the volume has been increased by one hundred pages.

The Tennessee Pharmacal Gazette. An eclectic monthly of practical pharmacy. Published by authority of the Tennessee College of Pharmacy and the Tennessee Pharmaceutical Association. Edited by Professors Benjamin Lillard and Thomas Black. Nashville. Monthly. Price, $1.25.

We heartily welcome this new pharmaceutical periodical, and trust that it may have a successful career. Judging of the large number of pharmacists and druggists in the United States, the pharmaceutical literature of the country has ample room for improvement and extension, not only in bringing out what is usually termed practical information, but also such which aims at rai-

ing pharmacy to the dignity of a profession, to something more than the compounding of drugs, of the nature of which frequently little is understood.

The first number, before us, is mainly occupied with the Proceedings of the Tennessee Pharmaceutical Association, whose organ it is, by short extracts, editorials, &c.

Galvano-Therapeutics. A revised reprint of a report made to the Illinois State Medical Society, for 1873, by David Prince, M.D., of Jacksonville, Ill. Philadelphia, 1873: Lindsay & Blakiston. 8vo, pp. 64.

This little work contains a great deal of information to the busy practitioner, and has evidently been prepared with much care, and with the material at hand well digested.

Proceedings of the Nebraska State Medical Society at its Fifth Annual Session, held in Nebraska City, Neb., June 3d and 4th, 1873. Omaha, Neb., 1873. 8vo, pp. 55.

The pamphlet contains the minutes of the Society, together with reports of some of the sections.

The Technologist, or Industrial Monthly. A practical journal for manufacturers, mechanics, builders, inventors, engineers and architects. Issued by the Industrial Publication Company, 176 Broadway, New York. Vol. V, 1874. 4to, 28 pages. Monthly. Price, $1.50 per year.

The number before us is filled with interesting matter, of the kind indicated in the title. The types are clear, the illustrations numerous and attractive, including two full-page engravings of a fan-blower, handsomely printed in colors, and the descriptions of apparatus and processes, the current notes and editorials are simple and practical.

A Universal Formulary: containing the methods of preparing and administering officinal and other medicines—the whole adapted to physicians and pharmaceutists. By R. Eglesfeld Griffith, M.D. Third edition; carefully revised and much enlarged by John M. Maisch, Phar. D., Professor of Materia Medica and Botany in the Philadelphia College of Pharmacy. Philadelphia: Henry C. Lea, 1874. With illustrations. Price: in muslin, $4.50; in leather, $5.50.

The work of preparing a new edition of this well-named *Universal* Formulary has been entrusted to Professor Maisch. Many changes were made necessary by the appearance of the new edition of the U. S. Pharmacopœia, and by the alterations in the British and German Pharmacopœias. The Formulary proper has been increased by one hundred and twelve pages; eighty-three new subjects have been introduced, among which may be mentioned:

Acidum Carbolicum,
Ammonii Valerianas,
Calcii Hypophosphis,
Ferri Pyrophosphas,
Physostigma,
Sodii Sulphis,
Iodoformum,
Potassii Permanganas,
Triticum Repens,
Ammonii Bromidum,
Cadmii Iodidum,
Ferri et Quiniæ Citras,

Ammonii Benzoas,	Pepsinum,
Bismuthi et Ammonii Citras,	Santoninum,
Chloral,	Zinci Sulphocarbolas.

Some of the old and little-used recipes have been dismissed, and where the authorities have seen fit to alter the titles of some of the articles, it was necessary to revise them and classify under their proper names.

The book as it now appears is a large octavo, of 800 pages, printed on good paper and in clear type.

The feature which at once attracts the practical eye in the Formulary itself is the admirable manner in which *useful* information is condensed in the form of head notes to the subjects. The tables also form important points of value, prominent among which may be mentioned—Equivalents in Troy and Avoirdupois Weights, Hydrometrical Equivalents, and Pharmaceutical Names. The chapter on Officinal Preparations and Directions is full of profitable suggestions, collated from the best works.

The labor of revising about 5000 formulas is not a small one, and it would not be surprising if a few errors or omissions should creep in. One that occurs to us just now, and which existed in the former editions, is that sometimes in a compound recipe the formula of one of the preparations which enters into it is not given in the book, and is not readily found in the books generally at command. As an example we instance syrup of mallows, on pages 253 and 271. And in the Index of Diseases and Remedies, cod-liver oil is omitted under the head Phthisis.

The young practitioner will find the work invaluable in suggesting eligible modes of administering many remedies, and the scope is so large that in most instances a choice to suit special cases can easily be made. The pharmacist will find that it well fills a niche in his library amongst his well-worn and tried friends, whether he wishes to make either the veteran preparations, or particularly if he receives an unexpected call for Saviard's Lotion, Vicat's Anodyne Mixture, or Stahl's Pills, or something out of the usual way.

J. P. Remington.

OBITUARY.

S. W. Butler, M.D., for many years editor of the "Medical and Surgical Reporter," died in this city January 6th, after a lingering attack of phthisis pulmonalis, in the fifty-first year of his life. The deceased was born at Maynard, East Tennessee, where his father labored as physician and missionary among the Cherokee Indians. When he graduated, in 1850, at the University of Pennsylvania, the subject of his thesis was Hydrangea arborescens, the value of which in calculous complaints has since been attested by many practitioners. For about twenty-three years, since 1854 as its proprietor, he has been connected with the "Medical and Surgical Reporter," which in 1858 he removed from Burlington, N. J., to Philadelphia, and at which he labored, until within a short period before his death, for the last seven years having been assisted by Dr. D. G. Brinton.